

AMPHIBIA: CAUDATA: PLETHODONTIDAE

PHAEOGNATHUS
P. HUBRICHTI

BRANDON, RONALD A. 1966. *Phaeognathus* and *P. hubrichti*. Catalogue of American Amphibians and Reptiles, p. 26.

***Phaeognathus* Highton**
Red Hills salamander

Phaeognathus Highton, 1961:66. Type-species, *Phaeognathus hubrichti* Highton, 1961, by original designation and monotypy.

• CONTENT. One species is known, *Phaeognathus hubrichti*.

• DEFINITION. This genus is defined by Highton as having "... four toes on the front feet, five on the hind feet; tongue attached in front and in the middle; maxilla normal; vomerine and paravomerine teeth not continuous; occipital condyles stalked; terminal phalanges T-shaped; no palmar tubercles; very short limbs, ... no light bar from posterior angle of the eye to the angle of the jaw; internal nares normal; tail with slight keel; tail not constricted at base." To this may be added the following observations by Valentine (1963a): (1) the premaxilla is single, with unfused nasal processes in broad contact enclosing a fontanelle, (2) no prefrontal is present, (3) the anterior and posterior ends of the upper eyelid overlap the lower, and (4) a large quadratopectoralis, small gularis, and heavily tendinous temporalis muscle are present as in other desmognathine salamanders.

• DESCRIPTIONS, ILLUSTRATIONS, DISTRIBUTION, and PERTINENT LITERATURE. See *Phaeognathus hubrichti*.

• FOSSIL RECORD. None.

• ETYMOLOGY. The name *Phaeognathus* derives from the Greek, *phaios*, meaning dun-colored, and the Greek *gnathos*, meaning jaw. The name apparently refers to the dark jaw: the jaw lacks the diagonal light line characteristic of all other desmognathines. *Phaeognathus* is of feminine gender, but is treated as masculine in accordance with the International Code of Zoological Nomenclature, (1961:art. 30(a) (i) (3) Examples).

***Phaeognathus hubrichti* Highton**
Red Hills salamander

Phaeognathus hubrichti Highton, 1961:67. Type-locality, "three miles [4.8 km] northwest of McKenzie on U.S. Route 31, Butler County, Alabama." Holotype, female, U.S. Natl. Mus. 142486, collected by Leslie Hubricht, 18 June 1960.

• CONTENT. No subspecies are described. The known range is very small.

• DIAGNOSIS. There is no problem of confusing this desmognathine salamander with any known species of *Desmognathus* or *Leurognathus*. The body is elongate (20-22 costal grooves; 13-15 in other desmognathines), the limbs are proportionally small (about 14 intercostal spaces between adpressed limbs), and there is no light bar extending from the eye to the corner of the jaw. Prevomerine teeth are retained in adult males.

• DESCRIPTIONS. The longest known adult is 234 mm in total length (119 mm snout to vent). The uniformly dark body coloration of living specimens is nearest the color of Maerz & Paul's (1950) Plate 48, L10; this is similar to Ridgway's (1912) Light Seal Brown, but darker; toward the tip, the tail tends progressively toward black. There is no difference between the color of the back and the venter. The palms and soles are less intensely pigmented and appear paler. The jaws and snout are noticeably lighter and more brownish. The eyes are large and protuberant. The tail makes up roughly 47 percent of the total length, is marked with annular grooves for most of its length, is oval in cross section, and lacks a keel. Sexual dimorphism is evident externally in the form of the vent only. The wall of the female vent is thrown into folds regularly spaced and visible externally; the inner surface of the male vent is papillose anteriorly. No mental gland is known on males.

The eggs have not been observed, nor has reproductive behavior. Larvae have not been observed. The number and size of ovarian eggs (Brandon, 1965) indicate that there may

be no larval stage. Immature individuals ranging from 31 to 100 mm in snout-vent length resemble adults in body form and color (Brandon, 1965). Females reach sexual maturity at about 101 mm snout-vent length, and males seem to mature at about 80 mm.

A description of the preserved holotype is found in Highton (1961); Valentine (1963a) redescribes the same specimen in more detail and describes some features of others.

• ILLUSTRATIONS. A photograph and radiograph of the holotype of *P. hubrichti* are found in Highton (1961). Valentine (1963b) provides a photograph of a living specimen and head profiles of two preserved ones.

• DISTRIBUTION. *P. hubrichti* is recorded from two sites in the wooded Alabama Coastal Plain (Butler and Conecuh counties). It is likely that the range extends in a narrow belt across Alabama, following a broken band of similar soil type, vegetation, geological formation, and topography along the southern edge of the Red Hills region. Specimens have been found in burrows in heavily wooded ravines.

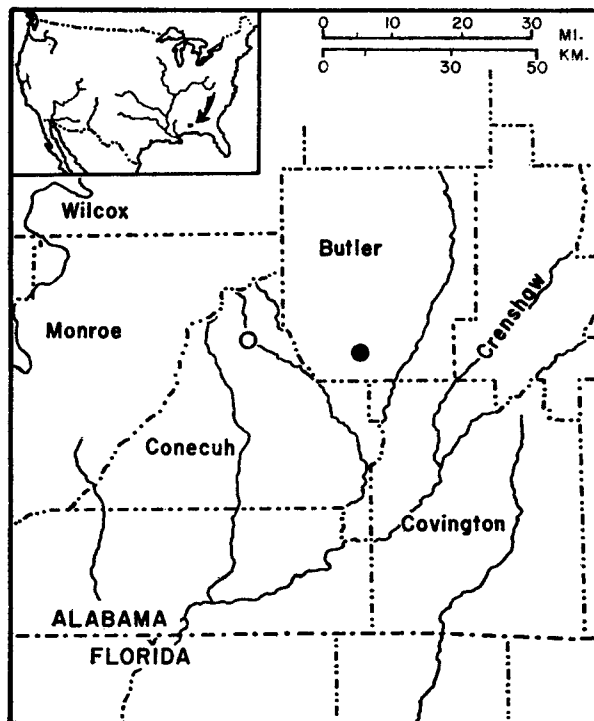
• FOSSIL RECORD. None.

• PERTINENT LITERATURE. The entire literature to date consists of the description by Highton, a summary of Highton's paper by Freytag, two papers and an abstract by Valentine, and one paper by Brandon. The second report by Valentine contains a description of the type-locality, an account of the cryptic habits of the salamander, and techniques used in capturing them. Brandon gives information on individual variation, population structure, and burrowing and feeding habits.

• ETYMOLOGY. The name *hubrichti* is a patronym based on the name of the collector of the holotype, Leslie Hubricht.

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MAP. The solid symbol marks the type-locality; the hollow symbol shows the only other known locality.

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